

1 **CLAIM AMENDMENTS**

2 **Listing of Claims:**

3 1. (previously presented) A transducer for detecting movement of an article mounted for  
4 movement in a plane, the transducer comprising: the article; a heater facing the plane of  
5 movement of the article and having a temperature dependent resistance; and, an edge defined in  
6 the article between regions of different thermal conductivity; wherein, as the article describes the  
7 movement, the edge moves relative to the heater producing a corresponding variation in heat loss  
8 from the heater and a corresponding variation in resistance of the heater.

9 2. (original) A transducer as claimed in claim 1, wherein the article is mounted for translational  
10 movement in the plane.

11 3. (original) A transducer as claimed in claim 2, wherein the edge is located in a plane surface of  
12 the article.

13 4. (original) A transducer as claimed in claim 3, wherein the edge is rectilinear.

14 5. (currently amended) A transducer as claimed in claim 4, wherein the heater comprises an  
15 ~~elongate~~ elongated body overlapping and extending parallel to the plane surface and  
16 perpendicular to the edge.

17 6. (currently amended) A transducer as claimed in claim 5, wherein the ~~elongate~~ elongated body  
18 comprises a silicon cantilever having a doped resistive region formed therein.

19 7. (currently amended) A transducer as claimed in claim 5 ~~or claim 6~~, wherein the edge is located  
20 on the periphery of the plane surface.

1 8. (currently amended) A transducer as claimed in claim 5 ~~or claim 6~~, wherein the edge is formed  
2 as a step in the plane surface.

3 9. (currently amended) A movement detection system for detecting movement of an article  
4 mounted for movement in a plane, the system comprising: first and second transducers as  
5 claimed in ~~any of claims claim~~ 5 to 8 operative in opposite directions along a common axis of  
6 movement of the article in the plane.

7 10. (original) A movement detection system as claimed in claim 9, wherein the first and second  
8 transducers respectively face first and second parallel edges of the surface.

9 11. (currently amended) A movement detection system for detecting movement of an article  
10 mounted for movement in a plane, the system comprising: first and second transducers as  
11 claimed in ~~any of claims~~ claim 5 to 8 operative in orthogonal directions of movement of the  
12 article in the plane.

13 12. (original) A movement detection system as claimed in claim 11, wherein the first and second  
14 transducers respectively face first and second orthogonal edges of the surface.

15 13. (currently amended) A local probe storage device comprising: storage surface, local probe  
16 storage array having a plurality of tips facing the storage surface; a scanner for moving the  
17 storage surface relative to the array in a plane parallel to the array; and a movement detection  
18 system as claimed in ~~any of claims~~ claim 9 to 12 for detecting movement of the storage surface  
19 relative to the array.

20 14. (original) A transducer as claimed in claim 1, wherein the surface is mounted for rotational  
21 movement parallel to the heater about an axis of rotation.

22 15. (original) A transducer as claimed in claim 14, wherein the edge is in the form of a side of a  
23 slot formed in the surface and extending radially from the axis of the rotation.

1 16. (original) A transducer as claimed in claim 14, wherein the surface comprises a spoke  
2 extending radially from the axis of rotation and the edge comprises a side of the spoke.

3 17. (original) A method for detecting movement of an article mounted for movement in a plane,  
4 the method comprising: locating a heater having a temperature dependent resistance to face the  
5 plane of movement of the article; defining an edge in the article between regions of different  
6 thermal conductivity; and, detecting variation in resistance of the heater corresponding to  
7 variation in heat loss from the heater as the edge moves relative to heater during movement of the  
8 article in the plane.

9 18. (new) A method as claimed in claim 17, wherein the edge is located in a plane surface of the  
10 article.

11 19. (new) A method as claimed in claim 18, wherein the edge is rectilinear, and wherein the  
12 heater comprises an elongated body overlapping and extending parallel to the plane surface and  
13 perpendicular to the edge.

14 20. (new) A method as claimed in claim 19, wherein the elongated body comprises a silicon  
15 cantilever having a doped resistive region formed therein.